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Tutorial Needs of Ohio High Schools

By M. EARLE COLLINS

A SURVEY has been made of the high schools of Ohio to determine what counties might profitably use the tutorial plan of instruction. Since the basic unit of control of the tutorial plan is the county, we have found by the survey just what district—any county educational district maintains a high school—within each county might contribute pupils to the tutorial plan. Within these districts we have endeavored to find the subjects for which this plan would be advantageous.

For each of the 88 counties a data sheet was made, which contained the information gathered from the high-school principal's annual report to the State Department of Education of Ohio. Only the data relative to the problem under consideration were included; the technique employed was essentially the same as outlined in the earlier report of the plan.[1] The enrollment and the cost of eleventh- and twelfth-year subjects, the total enrollment of the school, and the number of tuition pupils were considered significant items.

Every high school in the state theoretically has fallen under the scope of this survey, although the high schools of the large cities, because their curricular offerings are many and varied, and they have but few small classes, were tentatively eliminated at the outset. The instructional costs of approximately half of the exempted villages were noted. Most of the high schools in exempted villages were found to have an enrollment of two hundred or more pupils. The trend toward large classes and adequate curricular offerings was definite. Thus, since the high schools of exempted villages and of cities showed little

[1] "The Tutorial Plan for Ohio Schools" was described by H. W. Baker in a recent issue of the *Educational Research Bulletin*, IX (March 5, 1930), pp. 123-32. This article reports an outgrowth of the plan, a survey made preparatory to determining the field for further operation of the plan in the near future.

need, the detailed study of their instructional costs was not completed.

The principal's annual reports for two school years, 1928-29 and 1929-30, were examined in order to check any subjects that might be offered only in alternate years. Only one set of data for class-size and instructional cost was tabulated for each eleventh- and twelfth-year subject. Making allowances for inaccuracies of reports due to miscalculations, misinterpretation of directions, and incompleteness of some reports, we feel that the data in each case were representative of the situation which seemed to prevail.

The items of primary interest to us are the per-pupil cost of each subject for each semester and the size of the class. These two items tend to balance each other, obviously. The larger the class is the lower the semester cost per pupil, and the smaller the class the higher the cost of instruction per pupil. Several factors have entered into the computations to make the cost for each semester unreliable. A class taught by the head of the school causes the semester cost to be disproportionately high. Irregularity of teaching-loads had made it necessary for us to adopt a basic standard teaching-load of five periods per day. Errors creep into the four-step computation of the semester, per-pupil cost of each subject. These errors are due to the misinterpretations of the report and mistakes in mathematical calculations. In recording class-size, little chance of error is possible; it necessitates only the counting of noses in each class and recording the figure on the annual report.

ONCE the survey was completed, the counties were classified into groups according to their relative need of the tutorial plan. Criteria set up to effect this classification were determined in the light of the proposed tutorial organization and purposes. The four following groups resulted.

Group A.—The counties of this group need the tutorial plan in several subjects. The typical county of the group has twelve or more small high schools, small class units, a limited curriculum at present, and a logical geographical center accessible by good roads.

Group B.—The counties of this second group need the tutorial plan in from two to four subjects. The typical county has eight to twelve districts with medium-sized high schools, certain deficiencies in the curriculum, some small classes and possibly one or more large school units within the county, such as cities and exempted villages.

TABLE I

COUNTIES THAT DEFINITELY NEED THE TUTORIAL PLAN (GROUP A)

Name of County	Number of High Schools	State Aid for 1929 by Thousands of Dollars	Classes of One or Two Pupils	Classes of One to Five Pupils
(1)	(2)	(3)	(4)	(5)
Ashland	12	5	.....	5
Ashtabula	21	19	.....	21
Athens	14	196	.....	9
Belmont	11	60	2	15
Brown	11	70	.....	11
Butler	14	.....	6	17
Carroll	10	21	2	9
Champaign	12	4	2	15
Clinton	11	16	.....	10
Coshocton	15	7	7	17
Fairfield	12	11	1	7
Geauga	13	20	1	17
Guernsey	15	134	2	18
Harrison	11	8	2	13
Highland	10	59	2	8
Jefferson	13	47	.....	5
Lawrence	15	236	.....	3
Licking	17	.....	3	23
Logan	13	22	1	14
Lorain	18	.....	1	20
Marion	12	.....	1	8
Medina	13	17	1	5
Monroe	12	95	1	11
Meigs	11	97	1	6
Morgan	7	71	2	9
Muskingum	16	35	1	27
Noble	11	108	.....	14
Perry	12	122	2	10
Pickaway	13	1	.....	11
Portage	23	4	.....	18
Putnam	14	.....	3	16
Richland	10	4	1	12
Ross	11	29	1	23
Scioto	8	174	1	6
Shelby	8	.....	.....	5
Summit	16	5	1	16
Trumbull	25	44	1	15
Tuscarawas	14	3	2	10
Union	15	8	3	23
Washington	16	106	4	23
Wayne	17	.....	3	23
Wood	25	.....	1	21
Total	577	1,858	62	569
Median	13	18	1	14
Average	14	44	1.5	14

Group C.—These counties are on the border line of needing the tutorial plan. The typical county has a small number of districts sparsely populated, or in some cases has well-centralized and thickly populated districts with broad offerings of subjects and larger high schools with good-sized classes.

Group D.—This group is not to be considered for the tutorial plan according to present data. Later data may show a need for and a possibility of tutorial administration. The typical county is either urban in population or contains only a very few districts.[2]

Butler County is typical of Group A. It has fourteen districts, but only one four-year high school has an enrollment of over one hundred pupils. The median class-size of all eleventh- and twelfth-year subjects is twelve; only two schools offer any foreign language. The population is rural except for the cities of Middletown and Hamilton. Roads are fairly good, leading chiefly to Hamilton as a logical geographical center of the county.

In Group B we find Allen County to be representative. Ten districts support high schools, and the median class of eleventh- and twelfth-year subjects is fourteen. Half of the high schools have an enrollment of over one hundred pupils; in most of them a need is manifest for a broadened curriculum, especially in the commercial subjects. Two cities, Delphos and Lima, are situated within the county. Seven of the ten high schools have tuition pupils in attendance.

Hancock County is typical of Group C. It has nine districts with no high school of less than a hundred pupils. The schools are well distributed over the county, a fact which indicates that centralization has been well effected. Agriculture and home economics as provided for by the Smith-Hughes Act are emphasized in the curricular offerings. A number of commercial courses are given. A possible need might exist in one or two subjects where the present class-sizes are rather small.

Lake and Cuyahoga Counties may be taken as exemplifying Group D. Lake County is a thickly populated small county with several urban centers. The enrollment in most of the high schools is large; the offerings of the curriculum are fairly adequate. Cuyahoga represents the type of county which is metropolitan in nature. The tutorial plan has few advantages for such an area.

[2] Counties in Groups A and B are shown in Tables I and II. Group C includes Erie, Franklin, Hancock, Holmes, Paulding, Van Wert, and Williams Counties. Group D includes Cuyahoga, Fayette, Hamilton, Jackson, Lake, Lucas, Montgomery, Ottawa, and Pike Counties.

TABLE II

COUNTIES THAT MIGHT USE THE TUTORIAL PLAN IN A FEW SUBJECTS (GROUP B)

Name of County	Number of High Schools	State Aid for 1929 by Thousands of Dollars	Classes of One or Two Pupils	Classes of One to Five Pupils
(1)	(2)	(3)	(4)	(5)
Adams	9	179	.....	2
Allen	10	.....	1	4
Auglaize	7	3	1	3
Clark	12	.....	1	6
Clermont	10	94	.....	8
Columbiana	7	3	.....	4
Crawford	10	.....	.....	2
Darke	12	1	.....	10
Defiance	10	.....	1	4
Delaware	12	1	2	7
Fulton	9	.....	.....	1
Gallia	9	109	.....	4
Greene	9	6	1	7
Henry	9	.....	.....	3
Hardin	10	6	.....	8
Hocking	11	120	7	32
Huron	7	.....	.....	6
Knox	10	.....	1	25
Madison	9	1	3	15
Mahoning	14	1	2	8
Mercer	10	.....	1	5
Miami	12	5	.....	3
Morrow	9	4	.....	8
Preble	12	4	2	9
Sandusky	6	.....	1	3
Seneca	9	.....	.....	3
Stark	19	5	7	21
Vinton	9	60	.....	1
Warren	9	4	.....	5
Wyandot	10	.....	.....	5
Total	301	606	32	222
Median	10	3	1	6
Average	10	20	1	7

It will be noted in Tables I and II that the median number of districts in Group A is 13 and that in Group B it is 10. The medians for Groups C and D are 9 and 7, respectively. One might expect Group D to have a lower median number of districts. The counties with a small number of districts, however, are offset by the larger number of districts in the urban counties.

The amounts allowed for rehabilitation and for payment of old debts are not included in the figures for state aid. In general, the state-aid counties have heretofore been lacking in their curricular offerings.

The last two columns of Tables I and II represent the number of small classes enrolling only one or two pupils, and

TABLE III

DISTRIBUTION OF CLASS-SIZES BY SUBJECTS FROM A SAMPLING OF TWENTY-FIVE OHIO COUNTIES

	First Quartile	Median	Third Quartile	Counties Offering
(1)	(2)	(3)	(4)	(5)
Latin III	4	6	8	22
Latin IV	5	6	8	20
Advanced algebra—solid geometry	6	7	9	24
Geography	7	7	7	1
French II	7	9	10	23
Business English	9	10	13	5
Advanced agriculture	10	10	10	2
German II	10	10	10	2
Physics	9	10	14	25
Home economics	10	11	13	24
Manual training	9	11	13	24
Sociology—economics	9	11	15	19
French I	9	12	15	24
Shorthand	11	12	14	9
Typewriting	10	12	13	19
Public speaking	10	12	12	8
Spanish I	12	12	12	1
Commercial law	10	14	15	13
Bookkeeping	11	14	15	24
German I	14	14	14	3
Chemistry	12	16	18	23
English IV	15	18	22	25
English III	17	19	22	25
American history—civics	15	19	22	25

the number enrolling from one to five pupils. Ordinarily a class with a small enrollment is taught in alternate years. These figures are compiled over a two-year period. It should be noted here that only one county in the state—Williams—contained no classes with an enrollment of five pupils or less. Classes of only one or two pupils were found in fifty counties.

A SAMPLING was taken of the counties to determine the trend of the subjects that might profitably be included in the tutorial plan. The results of this sampling are shown in

Table III and indicate for what subjects courses of instruction should be prepared to meet existing needs. On account of practical difficulties, some subjects indicated in Table III had to be omitted from the list of subjects for which tutorial courses were prepared. Home economics, manual training, and physics, for instance, were omitted because it was deemed impracticable to provide the necessary equipment.

TABLE IV

DISTRIBUTION OF CLASS-SIZES OF FORTY-TWO COUNTIES IN GROUP A

Subject	Total Number of Classes	First Quartile	Median	Third Quartile	Number Counties Teaching Subject
(1)	(2)	(3)	(4)	(5)	(6)
German II	1	4	4	4	1
Latin III	140	4	6	9	35
Latin IV	115	4	6	8	35
Spanish II	9	6	6	21	4
Advanced algebra—solid geometry	214	5	7	11	40
French II	131	5	8	10	30
Spanish I	18	5	8	16	7
German I	5	8	9	14	5
French I	158	6	10	15	35
Typewriting	111	8	10	15	33
Sociology—economics	176	7	11	18	35
Commercial law	67	8	11	17	23
Shorthand	61	8	12	17	18
Bookkeeping	169	8	13	17	39
Chemistry	197	10	15	20	39

At present, courses under the tutorial plan which are in some stage of preparation are as follows: advanced algebra, solid geometry, economics and sociology, chemistry, French I, French II, Latin III, Latin IV, American history and civics, Spanish I, Spanish II, German I, and German II. These courses will be available in ample time to be placed in operation at the beginning of the school year in September, 1930. We are trying to work out courses in bookkeeping, shorthand, typewriting, and commercial or business law, also. The feeling prevails that no school should exist that does not offer English III and the required unit of American history and civics. Hence, these courses have been left entirely to the local school.

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Positions for High-School Teachers

By EARL W. ANDERSON

SAMPLES of questions frequently asked by college professors and students—especially by those who are considering the opportunities in teaching certain high-school subjects—are "How many teach English in Ohio high schools?" "How many teach German?" The reports of high-school principals sent to the State Department of Education include such information, and from these reports the answers to the general question, "How many teach each subject in Ohio high schools?" were compiled for the school year 1928-29.

Although the existence of a large number of positions involving the teaching of a specific subject does not of itself mean that there is little or much competition for positions in such a field, still, in absence of other evidence to the contrary, the number of teaching positions offers some idea of relative opportunities. As an extreme example, consider the teaching of journalism which occupies less than the full time of eleven teachers in the whole state. Obviously, one would rather like to know whether any of these eleven positions were likely to be vacant before he even considered entering the possible competition he might encounter from others prepared and ready to step into such positions.

The data here presented are complete for three-fourths of the high-school teaching positions in Ohio. They include nine-tenths of all four-year and senior high schools, but only one-fifth of the junior high schools. If they belong to organized junior high schools, the seventh and eighth grades are also included. Thus, the picture is about 90 per cent complete for subjects taught solely in Grades X, XI, and XII. It is probably 80 per cent complete for ninth-grade subjects, but it includes less than 20 per cent of the teachers of Grades VII and VIII.

Table I shows the extent to which each subject is taught in Ohio high schools. For ease in comparison both numbers and percentages are given. Thus from Column 2 we learn that there were 2,761 persons reported teaching one or more classes of English in Ohio high schools in 1928-29. This number equals 30 per cent of the total number of teachers in the state (see Column 3, Table I). Almost one-third of all high-school

teachers of Ohio were reported as teaching some English, one-fourth mathematics, and one-fifth history. Probably more taught social science, including civics, sociology, economics, and "problems," than mathematics. Latin came fourth in rank although considerably below the first three subjects. More than twice as many taught Latin as French, almost nine times as many as Spanish, and twenty-five times as many as German.

TABLE I

THE TOTAL NUMBER OF TEACHERS WHO TAUGHT ONE OR MORE CLASSES IN THE SPECIFIED SUBJECT IN THE HIGH SCHOOLS OF OHIO

Subjects Taught	Total Number	Per Cent	Subjects Taught	Total Number	Per Cent
(1)	(2)	(3)	(1)	(2)	(3)
English	2,761	30	Sociology	240	3
Mathematics	2,366	26	Economics	229	2
History	1,910	21	Physical educ. (women)	167	2
Latin	1,296	14	Art	164	2
Home economics	995	11	Public speaking	163	2
Industrial arts	820	9	Spanish	145	2
General science	793	9	Occupations	142	2
Biology	708	8	Commercial law	130	1
Geography	582	6	Commercial geography	111	1
Agriculture	540	6	Spelling	68	1
Physics	529	6	German	51	1
Civics	524	6	Business training	45	....[b]
French	507	5	Printing	36	....
Chemistry	451	5	Machine shop	15	....
Stenography and typing	451	5	Metal work	14	....
Bookkeeping	443	5	Fonndry	13	....
Music	388	4	Automobile mechanics	12	....
Problems	348	4	Journalism	11	....
Science[a]	283	3	Electricity	11	....
Physical educ. (men)	277	3	Salesmanship	10	....
Hygiene	263	3			

[a] This is the terminology given certain courses in the reports. While it probably meant "general science" it may perhaps include physics, chemistry, and biology in some instances.

[b] No percentage is included for these last nine entries since each is less than .5 per cent.

Home economics engaged the time of more teachers than did industrial arts, whereas more taught physical education for men than for women. A teacher of physical education was defined as one teaching two or more classes in this subject.

THE numbers of previously inexperienced teachers who taught in Ohio high schools in 1928-29 are shown in Table II. The percentage relation of these numbers of beginners to the total number of teachers of each subject is also given

in Column 3. Thus 284 of the teachers of English in the Ohio high schools during the year were beginners—10 per cent of all teachers of English.

The largest number of beginning teachers was found in English, but there were more in history than in mathematics. The apparent "turnover"—the percentage of beginners—varied from 41 in science to zero in the several subjects listed in the footnote at the end of Table II.

TABLE II

NUMBER AND PERCENTAGE OF INEXPERIENCED TEACHERS WHO TAUGHT IN THE HIGH SCHOOLS OF OHIO

Subjects Taught	Number of Inexperienced Teachers	Per Cent	Subjects Taught[a]	Number of Inexperienced Teachers	Per Cent
(1)	(2)	(3)	(1)	(2)	(3)
English	284	10	Chemistry	22	5
History	170	9	Problems	20	6
Mathematics	144	6	Physical educ. (women)	19	11
Science	117	41	Public speaking	19	12
Home economics	113	11	Physical educ. (men)	19	7
Latin	105	8	Economics	17	7
Geography	83	14	Physics	11	2
Civics	70	13	Hygiene	9	3
General science	61	8	Commercial law	9	7
Shorthand and typing	54	12	Art	8	5
Industrial arts	49	6	Spelling	8	12
French	48	9	Spanish	6	4
Music	41	11	German	5	10
Agriculture	38	7	Biology	2	.3
Bookkeeping	34	8	Occupations	2	1
Sociology	32	13	Commercial geography	1	1

[a] There were no beginning teachers in printing, journalism, automobile mechanics, metal work, foundry, machine shop, electricity, salesmanship, and business training.

A percentage distribution which summarizes the teaching experience of all teachers reported in each subject is presented in Table III. Each column indicates a span of time; each row, a specific subject. The number in each row set *in italics* indicates that the median number of years of experience for the teachers of that subject falls within the interval named by the caption of the column. Thus, of all the teachers of English reported, 10 per cent were inexperienced, 13 per cent had taught one year, and so on. The median experience of all teachers of English was from four to five years.

The lowest median experience, two years, was found among the science teachers. Teachers of spelling had taught a median

of three years. Probably beginners are more often assigned the teaching of spelling on the assumption that anyone can teach it. No reason is apparent for the low experience median of the so-called "science" teachers. As was stated in the first footnote to Table I, this subject as reported may include some or all the physical and biological sciences. Even so, there is no reason shown why teachers of this subject had a median experience of two years less than the teachers of designated sciences, namely, physics, chemistry, biology, and general science. The general impression, that home-economics teachers get married sooner than the woman teachers of other subjects, may be accepted as an explanation of why the median experience of these teachers was less than that of most others, since no verifiable reason showed pertinent evidence.

Teachers of 21 subjects had median experience of four to five years, whereas the median for those of 13 subjects was from six to ten years. In art, German, foundry, and salesmanship, the median experience of teachers was eleven years and over. There is still some shifting back to German by teachers within the system who had formerly taught it but had to give it up because of the lessened enrollment or its total discontinuance from the high-school curriculum during the war. Salesmanship is usually taught only in large high schools containing strong commercial departments. It is probably sought by those who have been several years within the school and hence is not available for the newer teachers.

A study of the range of experience of teachers, especially of those in subjects not widely taught, shows something of the possibilities for beginners in these fields. This study, however, indicates only the situation as it now exists, and it should be substantiated by studies covering an extended period of several years.

A COMMON attitude on the part of the faculty members and students in teacher-training courses has been that the students need thorough training in one field, since such students will in a few years be able to secure positions involving teaching of major subjects only. The teaching-loads of high-school teachers in Ohio show that a large percentage of even the older teachers are in charge of classes involving one, two, three, and four fields of preparation. Teachers of some subjects have

TABLE III

Distribution of the Teaching Experience of Ohio High-School Teachers by Subjects

Subject in Which One or More Classes Was Taught	No Experience	Years of Teaching Experience					
		One Year	Two Years	Three Years	Four to Five Years	Six to Ten Years	More than Eleven Years
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
English	10	13	11	9	*14*	17	26
Mathematics	6	10	8	7	14	*21*	34
History	9	11	10	9	*15*	19	28
Latin	8	12	10	8	*12*	19	30
Home economics	11	18	12	*12*	17	16	13
Industrial arts	6	9	10	8	15	*22*	30
General science	8	14	12	10	*19*	19	18
Biology	.3	15	12	10	*18*	24	20
Geography	14	13	12	9	*14*	18	20
Agriculture	7	12	11	11	*18*	21	20
Physics	2	9	11	8	14	*25*	30
Civics	13	12	9	10	*18*	16	21
French	9	16	14	9	*14*	16	21
Chemistry	5	8	10	8	17	*25*	28
Shorthand and typing	12	10	8	9	*15*	19	26
Bookkeeping	8	13	9	8	*15*	20	27
Music	11	15	11	12	*13*	16	22
Problems	6	15	14	8	*15*	19	23
Science	41	8	*5*	4	11	13	17
Physical education (men)	7	12	16	8	*20*	23	14
Sociology	13	10	9	8	*18*	16	27
Hygiene	3	17	17	10	*16*	18	18
German	10	.....	4	2	6	6	*73*
Business training	.....	9	7	4	13	*18*	49
Economics	7	8	11	9	*20*	19	26
Physical educ. (women)	11	15	11	12	*19*	21	11
Art	5	5	9	5	7	17	*52*
Public speaking	12	11	13	10	*12*	21	20
Spanish	4	6	12	6	10	*25*	37
Occupations	1	7	10	8	13	*22*	38
Commercial law	7	12	8	8	*17*	21	28
Commercial geography	1	16	12	6	*25*	22	18
Spelling	12	16	18	*6*	13	22	13
Printing	.....	3	8	8	17	*36*	28
Journalism	.....	10	.....	.....	27	*27*	36
Automobile mechanics	.....	8	8	.....	25	*50*	8
Metal work	.....	.....	21	.....	.....	*43*	36
Foundry	.....	.....	.....	.....	.....	38	*62*
Machine shop	.....	.....	.....	.....	.....	*53*	47
Electricity	.....	.....	9	.....	9	*36*	45
Salesmanship	.....	.....	.....	10	10	10	*70*

wider diversifications of teaching than do others. In general, subjects such as English which are taught in each year of the high school permit a greater specialty of teaching than does such a subject as economics which takes only one half-year of the high-school student's time.

Table IV shows the number of other subjects taught by the high-school teachers in addition to the major subject, that is, the subject in which one class or more is taught. Of those teaching one or more classes in English, 30 per cent taught this subject alone, 28 per cent taught one other subject, 23 per cent taught two other subjects, and so on. The median teaching load is indicated, as in Table III, by setting the percentage for the column in which the median falls in italics.

The reader will notice in Table IV that more than half of the teachers of music, physical education (women), art, printing, automobile mechanics, metal work, machine shop, and electricity teach no additional subjects. The median teaching-load in the larger number of subjects includes two other subjects than the one listed, whereas the median teaching-load in general science, geography, problems, occupations, and spelling includes three subjects in addition to work in the one listed. A fairly good-sized percentage of these high-school teachers carry five subjects—the one listed in the table and four others.

THIS study brings together information regarding the number engaged in teaching each of the high-school subjects, the experience of teachers in each of these subjects, and the teaching-load of the teachers of each subject. These facts should aid those who are advising teachers in training.

Teachers of English, mathematics, and history were most plentiful; whereas in salesmanship, only ten teachers were reported. The proportion of inexperienced teachers to all teachers varied from 41 per cent in "science" to none in printing, journalism, automobile mechanics, metal work, foundry, machine shop, electricity, salesmanship, and business training. Twelve per cent or more of all teachers in the fields of geography, civics, sociology, public speaking, and spelling were inexperienced. The median experience of teachers of 21 subjects was from four to five years; in 13 subjects, from six to ten years. In "science" the median amount of experience was two years; in home economics and spelling, three years; and in German, art, foundry, and salesmanship, eleven years or more.

TABLE IV

PERCENTAGE OF HIGH-SCHOOL TEACHERS OF EACH SUBJECT WHO WERE ALSO TEACHING ONE, TWO, THREE, OR MORE OTHER SUBJECTS

SUBJECT IN WHICH ONE OR MORE CLASSES WAS TAUGHT	THIS ALONE	NUMBER OF ADDITIONAL SUBJECTS					
		One	Two	Three	Four	Five	Six
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
English	30	*28*	23	12	5	1	.....
Mathematics	24	21	*24*	19	9	2	.....
History	17	23	*27*	20	11	2	1
Latin	16	29	*31*	18	5	1	1
Home economics	32	*21*	26	14	6	1	.....
Industrial arts	38	*15*	19	19	7	2	.....
General science	7	16	24	*32*	17	3	1
Biology	9	16	25	28	18	4	.....
Geography	6	16	25	*30*	18	4	1
Agriculture	25	10	*16*	26	18	4	1
Physics	10	22	*31*	23	11	2	1
Civics	2	22	*27*	25	18	4	1
French	18	*36*	32	11	3	.....	.....
Chemistry	17	26	*24*	24	8	2	.....
Shorthand and typing	29	*26*	25	13	5	1	.....
Bookkeeping	9	25	33	21	10	2	.....
Music	*65*	14	12	6	2	1	.....
Problems	.....	11	34	*29*	21	3	1
Science	23	26	*23*	18	7	2	.....
Physical education (men)	47	23	12	10	6	2	.....
Sociology	20	21	*23*	24	10	1	.....
Hygiene	4	23	*25*	26	18	3	1
German	37	*31*	14	10	2	6	.....
Business training	18	29	*24*	18	7	2	2
Economics	3	22	28	28	17	2	.....
Physical educ. (women)	*58*	17	18	5	2	.....	.....
Art	*81*	9	3	3	2	1	1
Public speaking	10	39	*23*	18	9	1	.....
Spanish	34	*37*	18	8	3	.....	.....
Occupations	9	18	21	*34*	15	2	1
Commercial law	2	25	*32*	26	14	1	1
Commercial geography	5	19	18	33	19	5	1
Spelling	.....	9	25	*28*	21	10	7
Printing	*92*	8	.....	.....	.....	.....	.....
Journalism	27	*45*	27	.....	.....	.....	.....
Automobile mechanics	*100*	.....	.....	.....	.....	.....	.....
Metal work	*79*	21	.....	.....	.....	.....	.....
Foundry	46	*54*	.....	.....	.....	.....	.....
Machine shop	*73*	*27*	.....	.....	.....	.....	.....
Electricity	*91*	9	.....	.....	.....	.....	.....
Salesmanship	40	*30*	30	.....	.....	.....	.....

Many taught two, three, and even four subjects other than the one specified. The median teaching-load of teachers of general science, geography, problems of democracy, occupations, and spelling included classes in three other subjects. The median teaching-load in twelve specified subjects included two additional ones; in ten other subjects the teachers were in charge of classes in one additional subject; whereas in music, physical education for women, art, printing, automobile mechanics, metal work, machine shop, and electricity, the median teacher had classes in no other subjects.

It is to be remembered that this study is based upon reports from high-school principals covering the work of three-fourths of all the teachers in the public high schools of Ohio. While data are essentially complete for senior and four-year high schools, those regarding subjects taught in junior high school are quite incomplete.

[Vol. IX, No. 9]

Teacher-Placement by State Agencies

By ELIZABETH MCCARROLL AND MARGARET MCCLOUD

ALTHOUGH all states devote large appropriations to the preparation of teachers, few have seriously considered the proper placement and promotion of these teachers a state function. From time to time since 1913, when the Minnesota State Department of Education organized the first state placement service for teachers, spasmodic attempts have been made to give some state direction and help to this activity. In some cases only indirect aid has been given, such as a placement bureau organized without an authorizing law.

In July, 1929, state superintendents of public instruction in the forty-eight states were asked to what extent state departments of education were concerning themselves with teacher-placement. From the information obtained a complete summary of the types of service given toward the placing of teachers by the various state departments was arranged and tabulated. The states not listed have no scheme of placement sponsored by the state department. It is probable that in many cases the service is of a perfunctory sort. Records may be kept, but no letters of recommendation are secured. Superintendents may list calls, but not receive recommendations. Where "informal

service" is given it is probably based upon one official's acquaintance and consequently is limited. In other states, however, an adequate service has been built up which functions effectively, as in Minnesota. Any teacher in Alabama who wishes to secure a teaching position may register with the state department. Superintendents who are seeking teachers may write

State	Placement service to teachers
Alabama	Registration service. Fee $1.
Connecticut	Lists of available persons sent to superintendents about once a month.
Delaware	Assists in placing teachers but no forms used.
Idaho	Application blank and reference blank used. Fee $2.
Illinois	Keeps list of persons and sometimes requests for available candidates are received.
Louisiana	Sends lists of names, addresses, etc. of persons available to superintendents.
Maryland	Informal service. No blank forms used.
Minnesota	Application blank and record card used. Registration fee $3.
Montana and New Hampshire	Registration service. Forms used.
Nevada	None. Permissive law but no appropriation.
Oklahoma	Registration service. Calls referred to teachers.
Pennsylvania	Registration service. Forms used.
Rhode Island	Informal service. Letters of application accepted.
South Carolina	Application blank used. Registration fee $1 or $5. Fee, if position secured, $10.
South Dakota	Service given but not used to great extent.
Texas	Service given. Forms used.
Vermont	Active service given. Forms used. No charge.
Wyoming	Registration blank used.
Maine, Massachusetts, Ohio, Virginia, and West Virginia	Registration service only.

asking for recommendations of suitable persons or may go to the state department to see the applicants. It is difficult to ascertain from the reports and records sent in just how adequate the service in any state may be. No information is available as to whether there is any co-operation between state teacher-training schools, state departments of education, and state teachers' associations.

In some of the states where the state department of education makes no attempts at placement the state teachers' associations have felt the need for a central bureau free from institutional or commercial agency control. The following summaries present the reported extent of this service:

Kansas—
Ninth year of service
Forms used
Registration fee $2, if not member of Association
Service advertised
Commission of 3.5 per cent on first year's salary
North Carolina—
Forms used
Registration fees $1 for members, $5 for non-members of Association
Recommendations made by mail as well as in office
No references collected
Oklahoma—
Registration service
No fees allowed
South Carolina—
Service given in conjunction with state department
Arkansas, Michigan, and Utah—
Service given

No service is given by the state teachers' associations in Florida, Illinois, Indiana, Louisiana, Massachusetts, Mississippi, Nevada, New York, North Dakota, Ohio, Oregon, Rhode Island, Tennessee, Texas, and Wisconsin.

An important source of waste lies in the failure of the state to concern itself with teacher-placement. The state taxes her people for teachers' salaries and for school supplies. It is not sound economic policy for the state to spend large sums of money preparing people for work as valuable to society as that of teaching and then to allow the persons so educated to depend upon the present devious methods of getting jobs after their education is completed. The most common ways are: through institutional bureaus which do not require enrollment of all graduates and which do not receive notice of all vacancies within the state for which they may have well-trained candidates, through commercial agencies of which even the most high-minded are not concerned primarily in the teacher, and by personal application often backed by influence of board members or influential citizens. Even if every person graduated from a training institution were required to register with his own insti-

tutional office it would still be necessary for each superintendent seeking teachers to write many different bureaus if he wished to secure the best teacher available for his vacancies.

A CENTRALIZED system of teacher employment under state direction presents many possibilities in the improvement of the selection, training, and placement of teachers. With the records of all teaching prospects in the state on file in a central office, each school man needing teachers might list his calls. Information concerning the best candidates from all institutions could be sent him or shown to him, and appointments could be arranged for interviews with the candidates or with appointment officers who knew the candidates. This would eliminate the necessity for teachers paying for their positions secured through commercial teachers' agencies. It should also reduce turnover by insuring at the outset more effective placement of teachers in the kinds of positions for which they are trained and in which they can succeed and advance. Uniform methods of record-keeping would be promoted by requiring from each institution certain kinds of information concerning students. These records would be usable in the state clearing house for the interchange of information between employment offices concerning teaching opportunities. The compilation and distribution of information for use in selection and guidance of teachers would be facilitated and accelerated.

Objections to teacher-placement by a central state agency include statements that the placement must necessarily be routine and impersonal if an agency deals with large numbers of candidates and superintendents; that politics may impair the placement efficiency; and that individuals of merit may more easily get "lost" in the great number of files that would have to be kept. None of these objections are necessarily inherent in centralized state teacher-placement. Any or all of them may exist in an institutional placement office. The advantages of state placement in locating fully qualified people for positions demanding specific qualifications and abilities much more than offset the weaknesses which may be anticipated in such agencies.

EDITORIAL COMMENT

THE first annual report of the Scottish Council for Research in Education contains an account of the origin of the organization. This Council is composed of thirty-two members who are to be nominated representatives from one of the following organizations: Association of Education Authorities, Educational Institute of Scotland, Association of Directors of Education in Scotland, Training Colleges and Universities, British Psychological Society, and Association of School Medical Officers.

The general purpose, to encourage and organize educational research in Scotland, is resolved into five specific aims: "to initiate and control special investigations, making the necessary arrangements with the relative education authority; to receive suggestions for research; to allocate problems to suitable investigators; to finance approved investigations wholly or partly; and to authorize the publication of results and recommendations, and to bear the cost (wholly or partly) of such publication."

The funds for the support of the Research Council are to be derived from the grants given by any of the organizations represented on the Council either for general maintenance or for specified purposes and from annual subscriptions or occasional gifts from individuals or organizations. In order that overlapping of effort may be avoided, a complete register of the work in educational research in progress throughout Scotland will be compiled.

An effort is to be made to provide books difficult of access for the use of research workers and to make arrangements for the translation from foreign languages of the reports of important research studies which may also be of service to them.

During the first year of its activities the Council has endeavored to determine the attainments expected of a normal child at the "qualifying stage" as well as the actual achievements of these pupils. The qualifying examination is a test given to all elementary pupils of eleven or twelve years of age to assess the capacity of these pupils for admission either to the advanced divisions of the elementary school or to the secondary school. A study of the attainments of secondary-school pupils was also

begun, and another concerned with the effect of moving children who have lived in a slum area to more sanitary housing conditions has been subsidized.

This scheme offers several unusual characteristics to the person familiar only with educational research as it is organized in America. The Scottish Council includes representatives of teachers' organizations, teacher-training institutions, groups of educational administrators, and allied organizations devoted to the study of psychology and medicine. Its nearest counterparts in America are the American Council on Education, which includes representatives from many educational associations the majority of which are interested in collegiate education, and the Research Council, in which education is but one of the several sciences represented. The assistance of the central organization in obtaining books and in translating is unusual, if not practically unknown here. Several attempts have been made in this country to notify research workers of studies recently completed, such as, the list of these given by W. S. Monroe in his *Ten Years of Educational Research* and in the *Bibliography of Research Studies in Education* recently compiled by the United States Office of Education. Although the population to be served and the area to be covered more closely resemble those of Vermont, New Hampshire, and Massachusetts combined than the whole country, still the organization of the Scottish Council for Research in Education offers suggestions which might well be incorporated in a national council for research in America.

J. H. M.

A NEW quarterly entitled the *Journal of Social Psychology*, edited by John Dewey, Carl Murchison, and a corps of twenty-one other internationally known associate editors, made its debut with the February, 1930, issue. The new journal is a welcome addition to the psychological journals already published by the Clark University Press.

The general makeup of the *Journal of Social Psychology* is similar to that of other publications edited by Mr. Murchison. Articles stressing political, racial, and differential psychology are already scheduled to appear. If we may judge from the first issue, articles of a research nature will be given precedence over articles of an editorial type.

READINGS

WEEKES, BLANCHE E. *The Influence of Meaning on Children's Choice of Poetry*. New York: Teachers College, Columbia University, 1929. 50 pp. (Teachers College, Columbia University, Contributions to Education, No. 354)

Miss Weekes's study aims to determine to what extent figurative language, involved sentence structure, and experience, actual or vicarious, affect children's enjoyment of poetry.

The method of the study involved three factors: children's comprehension of poems as indicated by their answers to true-false questions; their choice between figurative and simplified versions of the same themes; an examination of the actual and indirect experiences of the subjects. The poems used were those not generally found in school readers. The children serving as subjects were sixth graders from urban, country, inland, and coastal communities.

The results of the study are, in the main, those one would expect. Both figurative language and involved sentence structure obscure meaning and affect choice. Poems whose themes are parallel to children's experiences are more easily understood than the others.

Studies such as Miss Weekes's have, obviously, the value of putting the popular halo of "scientific" proof upon common observation. Candidly, however, the present reviewer is more and more frequently reminded of certain pertinent sentences from good old Doctor Johnson's "Multiplication of Books."

HOWARD FRANCIS SEELEY

ROSENLOF, GEORGE WALTER. *Library Facilities of Teacher-Training Institutions*. New York: Teachers College, Columbia University, 1929. 59 pp. (Teachers College, Columbia University, Contributions to Education, No. 347)

The problem which confronted the author was to discover the present status of the libraries of teachers' colleges and normal schools as to the number and classification of books and periodicals, and their present budgetary needs. Upon the basis of these data, standards are proposed which should govern a teachers' college library. The questionnaire method was employed, reports being received from 78 per cent of the four-year or degree-granting group of teachers' colleges and 51 per cent of the normal schools.

The more significant conclusions are as follows: (1) the lack of system in providing for and operating the libraries of teachers' colleges and normal schools is "little short of tragic"; (2) in a large majority of cases, the libraries do not measure up to the standard of fifteen thousand set by the American Association of Teachers Colleges; (3) no libraries are large enough to justify decentralization, though a separate training-school library is recommended; (4) a minimum of twenty-five thousand volumes, exclusive of public documents, and of one hundred fifty periodicals is recommended; (5) the chief librarian should have "the same degree of academic and professional training as that of full-time professors in the college" and in addition should possess

special library training; (6) from five to seven per cent of the total college budget, exclusive of capital outlay, should be allotted to the library. This study should prove of value to those who are charged with the responsibility of providing libraries for teachers' colleges.

H. B. ALBERTY

RUGG, HAROLD. *Changing Civilizations in the Modern World.* Boston: Ginn and Company, 1930. xvii + 633 pp.

College administrators believe in placing orientation courses in the freshman year of the college. Mr. Rugg, however, believes that our youth can be introduced to an understanding of contemporary civilization while they are in the secondary school. Further, his opinion is based on a series of twenty-two investigations made at one or another phase in the production of this social-studies program.

The significant contributions made by this textbook are these: It is a unified course in social studies based upon the findings of specialists in history, geography, government, and economics; each topic is treated in an interesting episodic style which recreates for the pupil many of the dramatic events of present-day social living; and its major aim is to train pupils to meet modern social problems intelligently.

EDGAR DALE

COOK, ROBERT C., ed. *Who's Who in American Education: A Biographical Dictionary of Eminent Living Educators of the United States.* New York: Robert C. Cook Company, 1929-30. Vol. II. 721 pp.

The second volume of *Who's Who in American Education*, which has recently come from the press of the Robert C. Cook Company, while undoubtedly a valuable tool, is also slightly disappointing. The omission of many people one would expect to find included and the unequal treatment accorded are perhaps its weakest points. A more consistent arrangement of information given would also add to its ease of use. In spite of these points educators and librarians will accept thankfully this reference tool in a field inadequately covered. The present volume is an improvement and a great enlargement over the previous one, and we are led to hope for a thoroughly satisfactory edition in the next volume which is scheduled to appear in 1931.

MARY REBECCA LINGENFELTER

WOODRING, MAXIE NAVE, AND SCHWENDENER, NORMA. *Enriched Teaching of Physical Education in the High School.* New York: Teachers' College, Columbia University, 1929. ix + 143 pp.

This "source book for teachers of physical education, camp councillors, and recreation leaders" is an annotated and classified list including books, periodicals, pamphlets, and a few articles; also dealers, summer schools and camps, and professional associations. The book has two obvious shortcomings: it does not give evidence of any satisfactory basis of selection of items, and it has a classification that is amazingly illogical. It will be of value, nevertheless, for it offers many suggestions to young teachers and a few to even the best-posted students. Probably the most valuable sections are those on costumes, dancing and rhythms, dramatic expression, and festivals and pageants.

DARWIN A. HINDMAN

VAN ALSTYNE, DOROTHY. *The Environment of Three-Year-Old Children.* New York: Teachers College, Columbia University, 1929. vii + 108 pp. (Teachers College, Columbia University, Contributions to Education, No. 366)

This study is an attempt to evaluate environmental factors. The author states that the aim is not to determine the effect of environment on intelligence, but rather to find relationships between mental development and certain environmenal factors.

A large number of tests were given to 75 children ranging in age from 33 to 39 months. A questionnaire including items of information concerning living conditions at home was made and filled out for each child. Correlations between certain environmental factors, the child's mental age, and the mother's intelligence were computed. Although these coefficients are all rather low (they range between $r = .30$ and $r = .60$), the author believes them to be "decidedly significant."

The author finds the correlations between factors which are usually assumed to have some effect on the mental age of the child to be the same as or lower than those which apparently have no such effect. Cleanliness correlates as highly with the mental age as does the possession of constructive toys. Also, it is impossible to make any generalizations on the basis of this study. There is no foundation for saying that environmental factors do or do not effect the child's mental age score.

AMALIE K. NELSON

MURPHY, CAROBEL. *Thrift through Education.* New York: A. S. Barnes and Company, 1929. x + 150 pp.

Teachers who wish for the succinct, the concrete, the usable in a program for thrift education will find this little book invaluable. Miss Murphy not only presents an interesting experiment in the way of a thrift program, but also gives a brief history of thrift education, summarizes the studies made in the field, and discusses the psychological basis of such a program. One learns that thrift means more than the mere saving of money; it has to do with the saving of time, health, energy, talents, and materials, including clothing. The chapter summaries are excellent; the bibliography adds to the worth of the study; all in all a complete and workable teaching plan is presented for use in the secondary school.

EDITH DAWSON

SCHWEICKHARD, DEAN M. *Industrial Arts in Education.* Peoria, Illinois: Manual Arts Press, 1929. 367 pp.

This instructive and interesting work in which one finds reflected modern thought and tendencies in the field of industrial arts has nothing strikingly new in philosophy, method, or practice. Due recognition is given to the respective fields of industrial arts and vocational education with emphasis on their proper relationships. Attention is repeatedly directed to the thought that too great emphasis has been and is being placed on the development of a narrow range of skills and informations, with little consideration given to the large contribution the industrial arts may and should make to general education.

The classification of manipulative activities into five categories is interesting. However, when one realizes the decided overlapping nature of these,

the value of classification becomes less apparent and provokes the question: May not such lead to confusion rather than clarification? Also, advocating a psychology of instincts as a basic approach for the interpretation of human behavior can scarcely be regarded as compatible with modern psychological thought and tendencies. But on the whole the book contains much worthwhile and profitable thought for teachers in the field.

ROBERT E. SMITH

KANDEL, I. L., ed. *Educational Yearbook of the International Institute of Teachers College, 1928.* New York: Teachers College, Columbia University, 1929. xiv + 464 pp.

The present volume is the fifth in this series of yearbooks which was initiated in 1924. It follows the plan which was adopted at the beginning, of devoting the first part to an account and survey of educational conditions and progress in several countries and the second part to a treatment of a special topic; but the first part is much reduced in length and only five countries are treated, while one-half of the book is devoted to the special topic, "The Problem of Vocational Education," in England, France, Germany, and the United States. The whole volume also has been reduced in size, being one-fourth shorter than the 1927 volume. A note on page ix gives in brief the contents of the four issues which have preceded this one.

As usual the surveys of the several countries include a wide variety of topics from the whole range of school education. Political problems come up for special mention in connection with England, France, and Germany. The section on vocational education deals with guidance, schools, curricula, the training of vocational teachers, and other subjects. There are bibliographies appended to most of the chapters, and the volume is indexed. It is a very useful account of current educational history.

H. G. GOOD

KITSON, HARRY DEXTER. *How to Find the Right Vocation.* New York: Harper and Brothers, 1929. x + 202 pp.

The author's own declaration that "the book is written for the ultimate consumer who wants facts stated in non-technical language" best describes this pungent and practical "guide to bigger and better jobs." It is a book written mainly for the person who has a job but who wants or should have another for which he is better suited—rather than for the boy or girl about to make what he or she regards as the fateful first choice of a vocation. Teachers, therefore, will find the book not suitable as a guidance or occupational studies text but they will be sure to place it on their bookshelves of outside readings for students in either high school or college. It is the worker actually on location in a misfit or dead-end job who will probably make the best use of it, however.

Starting from the premise that "it is probable that 50 per cent of the people can succeed with a 50-per cent degree of success in 50 per cent of the occupations," Mr. Kitson devotes the first one hundred pages to the psychological and common-sense considerations which should govern the sensible choice of a career. Besides the recognized and more familiar ways of evaluating oneself and the various vocations, he urges the intensive study of contemporary biographies and presents an ingenious technique for gaining there-

from a wealth of practical knowledge concerning occupations and opportunities therein. The motivational value of this technique is at once apparent, as well.

Later chapter headings include: "How to Get a Job," "How to Get Interested in Your Work," "How to Get a Raise," and "Keeping Books on Yourself," in which last the author lists "Lady Luck" as a very much overestimated patroness of life-success and insists upon a continuing self-check-up with reference to a flexible but fairly definite life-plan as the sesame to success.

J. L. MORRILL

McCORMICK, CLARENCE. *The Teaching of General Mathematics in the Secondary Schools of the United States.* New York: Teachers College, Columbia University, 1929. 173 pp. (Teachers College, Columbia University, Contributions to Education, No. 386)

This monograph contains a survey of the general-mathematics movement in the United States, presents useful historical material, and reports the results of teaching general mathematics. The latter, however, are not convincing. The monograph contains three chapters which purport to give a critical study of textbooks. In all, one hundred six textbooks were studied, but unfortunately the results are open to question since the page of the textbook was used as the unit of measure. For this reason the author is able to state his results in terms of general trends only.

The author also reports a study of printed courses of study to ascertain the prevalence of the teaching of general mathematics. He finds that this subject is generally taught in the junior high school but is featured little in senior schools. The monograph closes with a summary of the opinions of high-school teachers of mathematics and specialists, from which he concludes that general mathematics is slowly making headway as a school subject. The contribution will be of interest to those who wish to find information on the topic and is to be commended for this purpose.

W. J. OSBURN

GRAY, MASON DEWITT. *The Teaching of Latin.* New York: D. Appleton and Company, 1929. xviii + 236 pp.

A member of the special committee for the Classical Investigation, a scholar, and an experienced teacher of high-school Latin, Dr. Gray has written a book that should prove a *vade mecum* to every Latin teacher. The author believes, with Dewey and Inglis, that the language studies of the secondary school "should find their fundamental values and primary aims in the development of the ability to employ language as an instrument of thinking." High-school Latin, then, should not aim primarily to prepare for further study, but it should make "the mother tongue a conscious tool of conveying knowledge and assisting thought." Dr. Gray formulates the specific objectives by which this goal may be attained and states his reasons for considering Latin the best language, if properly taught, for training in thought and expression.

Because the methods which he recommends were evidently worked out with the definite idea of realizing these objectives and tested for results, the reader is impressed with their practical value. Use of the rather extensive material for the problematic study of English derivatives, for exercise in the application of grammatical rules to troublesome English constructions, for

Latin-French word-study, and for work in mythological and "historical-cultural" background will give the pupil who will not continue the language in college immediate results which he can appreciate.

JEANNETTE A. REED

LOMAX, PAUL S., AND HAYNES, BENJAMIN R. *Problems of Teaching Elementary Business Training.* New York: Prentice-Hall, 1929. 199 pp.

The authors discuss the problems in the teaching of elementary business training, one of the newer courses of study in the curricula of the junior high school, purposing to introduce that subject early in the career of the child. They consider seven functions: adaptive, unifying, differentiating, selective, directive, participating, and preparatory, and link these up with practical business problems of actual situations in and out of school.

The aims and materials of teaching elementary business training are emphasized; then the student is considered in his learning of the materials which are in keeping with the aims. At the end of each chapter are given practical problems in elementary business training, and several types of achievement tests measuring the results of elementary business training complete the book.

CHLOIE D. MCGLINCHAY
Central High School, Columbus

Tutorial Needs of Ohio Schools

(Continued from page 239)

A summary of the present class-sizes in the forty-two counties of Group A is presented in Table IV. Only those subjects for which tutorial courses are under consideration are included in this table. Some of the subjects listed in this table are offered in only a few counties. This is an indication that, if the subject were offered in other counties, pupils might express a demand for it. The table shows not only what subjects have small classes enrolled, but also what subjects should be offered in more counties.

With the data at hand showing the need of the tutorial system in Ohio high schools, administrative provision has been planned and necessary blanks have been prepared to determine the needs and desires of the pupils within each county. Subject-selection cards for 1930-31 are ready for use. It is hoped that the counties interested in the tutorial plan will have these cards filled out before the close of the present school year. Instruction sheets for the various administrative units are also available. These materials may be obtained through the State Department of Education or the Bureau of Educational Research of Ohio State University.

NEW TESTS

Two new character tests have recently been prepared by Robert P. Carroll, Teachers College, Syracuse University, and published by the Institute of Research in Education and Character, Syracuse. The first is entitled "Courtesy Test" and ostensibly covers questions about the pupil's habits of courteous conduct. In reality the author has constructed this as a lying test. The questions are so chosen that certain of them are never done. Hence the pupil who claims such "courteous" habits is rated as lying.

The second test consists of two forms entitled "Vocabulary Test." Pupils are asked to check the words they know from a long list. Included in the words are certain fictitious words, so that the test may be used to spot the "bluffers."

These tests are illustrations of the current attempt to measure phases of character. How valid and reliable these tests are as measures of lying are not definitely known. This field of testing is in its pioneer stages.

The following tests have recently been received, but there was not included with the tests the information needed by the reviewer to make an adequate evaluation of them. They are mentioned here in case some of our readers wish to experiment with them.

A test of Signs, Symbols, and Vocabulary of Arithmetic, in two duplicate forms, devised by Caroline Armstrong, published by the Psychology and Educational Research Division of the Los Angeles City School District.

Ely-King Interpretation Tests in American History, in two duplicate forms, devised by Lena Ely and Edith King, published by Research Service Company, Los Angeles. This test attempts to measure the pupil's ability to weigh two or more facts in making a correct interpretation.

Check Tests to Accompany Carpenter's around the World with the Children, by G. D. Strayer, Paul R. Mort, and J. E. Dransfield, is published by the American Book Company, New York. This is a booklet of fifteen tests, one for each chapter of Carpenter's book. The tests are designed to measure the pupil's comprehension in reading this geography book.

Rational Objective Tests in Applied Business Calculation is distributed by the Gregg Publishing Company, New York. This contains in one eight-page pamphlet three tests: the first covers the four fundamental processes, the second involves common and decimal fractions, and the third test attempts to measure skill in solving practical business problems.

A Mechanical Drawing Test is prepared and published by George K. Wells, State Supervisor of Trade and Industrial Education, Indianapolis, and M. L. Laubach, State Normal School, Terre Haute. This is a thirty-minute test of knowledge of elementary mechanical drawing.

TEST Method Helps, Number One, by A. S. Otis and J. S. Orleans is a twenty-page bulletin recently published by the World Book Company, New York. This, the first number of a proposed series dealing with various problems in the use of tests, is a Manual for Transmuting Standardized Test Scores into Terms of School Marks. The bulletin explains clearly and simply the commonly used techniques for deriving pupils' letter-grades from test scores. The first number indicates that the series will be helpful to those who use tests.

A NEW test in mechanical drawing for high schools and vocational schools has been published by the Bruce Publishing Company, Milwaukee, as Test II of the Nash-Van Duzee Industrial Arts Tests. An attempt is made in this test to measure information acquired in the subject as well as performance skills. The material used in the test was derived by analyzing widely used texts, references, surveys, and courses of study. The topics obtained from this analysis were approved by a group of persons throughout the country who were interested in the teaching of mechanical drawing. Every one of these topics which the authors were able to test objectively were then included. This method should insure a high validity in content.

The reliability of the whole test is .87 which is adequate for comparing groups. A single test result would not be a reliable measure of an individual pupil's standing, but the test might safely be used in combination with other tests or ratings for the measurement of individuals.

There are two duplicate forms of the test, each containing two parts, information and performance. Norms are available from its use with twenty-five hundred pupils.